Rhodora

JOURNAL OF THE

NEW ENGLAND BOTANICAL CLUB

Conducted and published for the Club, by

BENJAMIN LINCOLN ROBINSON, Editor-in-Chief.

MERRITT LYNDON FERNALD
HOLLIS WEBSTER
CARROLL WILLIAM DODGE
} Associate Editors

WILLIAM PENN RICH
EDWARD LOTHROP RAND
} Publication Committee

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Vol. 25. January, 1923. No. 289.

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THE NEW ENGLAND BOTANICAL CLUB

Vol. 25. January, 1923 No. 289

THE SOUTHERN VARIETY OF THELYPTERIS FRAGRANS

M. L. Fernald.

In studying the plants brought back in 1922 from Baffin Land and Labrador by Mr. Donald B. MacMillan, my interest was especially excited by one fern, because of its unusual aspect. Obviously a member of the genus *Thelypteris*, the plant was characterized by its dense habit and rufescent chaffiness. The stiff and coriaceous fronds about 1 dm. long, with short stipes densely clothed with conspicuous cinnamon-colored or reddish scales, are likewise very chaffy on the back of the rachis, and the reddish scales often extend to the backs of the crowded and more or less inrolled pinnae. Upon comparison in the herbarium MacMillan's material proves to be exactly *Thelypteris fragrans* of the Arctic regions, all material from Greenland and northern Labrador to northern Alaska and Siberia being uniform, except that very large fronds reach a length of 2 dm.

This arctic plant is so strikingly unlike the plant of temperate regions which the writer has repeatedly collected, always at low altitudes, and which has anything but an arctic or arctic-alpine range,—dry slaty, shaly or other basic rocks from east-central Newfoundland to New England, New York and Minnesota and reappearing in temperate eastern Asia (Japan, Amur and Manchuria)—that one wonders that the two have so long passed as identical. The more southern plant is naturally larger, and its fronds are nearly if not decidedly membranaceous, with more scattered and longer pinnae and pinnules, but the most striking difference is in the fewer and

smaller scales on the stipe and especially on the back of the frond from which they are often essentially wanting. Careful examination of these scales indicates no specific difference, nor do characters appear in the indusia and spores. The two plants seem, then, to be an arctic and a temperate eastern American and eastern Asiatic variation of one specific type.

In determining which of the two is the nomenclatorial type of the species we fortunately are aided by good descriptions. Linnaeus founded his *Polypodium fragrans* upon the Siberian *Dryopteris Rubum Idaeum spirans* of Amman. The Linnean account[1] is as follows:

32 POLYPODIUM frondibus sub-bipinnatis lanceolatis: foliolis confertis: lobis obtusis serratis stipite paleaceo. *fragrans.*
Dryopteris Rubum Idaeum [misprinted by Linnaeus rubrum idaeum] spirans. *Amm. ruth.* 251.
Habitat in Siberia.
Habitus P. F. Maris, at longe minor. Foliola *densius congesta, lobis lateralibus obtusis, profundius serratis.*

Amman gave a fuller description[2] though without any additional characters, but his paragraph explaining the name and the type locality is worth quoting:

"Ienisae incolae, vt refert Gmelinus hanc plantam cereuisiae incoquunt, quae gratum inde Rubi Idaei odorem et saporem acquirit. Sicca etiam in conclaui asseruata totum conclaue odore suo implet. In Angarae et Selengae fluuiorum montosis prouenit. Tanquam efficacissimum antiscorbuticum Gmelino commendata fuit."

The Angara rises to the northwest of the Baikal Mountains in Siberia and the Selenga enters Lake Baikal from the south. The type region was, then, the mountains of the Baikal region, and material from that area ("*ad Baikalem*") well matches the more arctic extreme. The description by Amman indicates this plant and the briefer one of Linnaeus with its "foliolis confertis" seems conclusive, that true *Thelpteris fragrans* is the more northern extreme.

The southern extreme was clearly recognized by Hooker in 1862, when he described the typical *Nephrodium fragrans*, of "High arctic or subarctic regions," with fronds "destitute of scales above, while the whole of the rest of the plant is richly palaceous with aureo-nitent scales," and set off as Var. "β, slender submembranaceous very sparsely scaly," the plant of "the Caucasus" and of Wisconsin,

[1] L. Sp. Pl. ii. 1089 (1753).
[2] Amman, Stirp. Rar. Imp. Ruth. 174 (1739).

saying "it is remarkable that the only specimens from those regions are what I here consider the var. β."[1] Whether this southern variety actually occurs in the Caucasus seems very doubtful. At least, Boissier clearly states that the record arose through an erroneous label;[2] but the plant of temperate North America and temperate eastern Asia is clearly Hooker's *Nephrodium fragrans*, var. β, and since it is a well marked geographic variety it may appropriately be called:

THELYPTERIS FRAGRANS (L.) Nieuwl., var. **Hookeriana**, n. var., frondibus submembranaceis vel membranaceis 0.7–3 dm. longis 2–5.5 cm. latis subtus sparse vel sparsissime paleaceis; pinnis pinnulisque nec confertis plerumque subremotis.—NEWFOUNDLAND: dry ledges and talus, north bank of Exploits River below the falls, Grand Falls, July 3, 1911, *Fernald, Wiegand, Bartram & Darlington*, no. 4293; dry mossy trap ledges in woods south of Norris Arm, August 11, 1911, *Fernald & Wiegand*, no. 4294; dry cliffs and talus, Tilt Cove, August 22, 1911, *Fernald, Wiegand & Darlington*, no. 4295. QUEBEC: Seven Islands, August 12, 1907, *C. B. Robinson*, no. 879; in clefts of rocks, on mossy cliffs, and sometimes on stony hillsides, River Saguenay, August 15, 1865, *D. A. Watt*; shaded cliffs of the Saguenay River, August 9–14, 1879, *Pringle*; on a cliff in woods, side of Mt. Albert, Gaspé Co., August 2, 1881, *J. A. Allen*, August 8–15, 1905, *Collins & Fernald*; calcareous cliffs, gorge of River Ste. Anne des Monts, August 15, 1906, *Fernald & Collins*, no. 281 (TYPE in Gray Herbarium); dry calcareous ledges and cliffs, between Baldé and the Baie des Chaleurs, Bonaventure River, August 5, 6 and 8, 1904, *Collins, Fernald & Pease*; dry faces of trap cliffs, Tracadigash Mt., Carleton, July 24, 1904, *Collins, Fernald & Pease*; at various stations on dry limestones and slates, Bic, July, 1904 and 1907, *Fernald & Collins*, nos. 837, 838, etc.; slaty ledges along Metapedia River, Assemetquagan, July 29, 1922, *Fernald & Pease*, no. 24,779; shaded dry cliffs (both calcareous and non-calcareous), Mt. Elephantis, Potton, Broome Co., July 7, 1909, *A. S. Pease*, no. 11,953, August 10, 1903, *J. R. Churchill*. NOVA SCOTIA: cliffs along Barrasois River, Cape Breton Island, July 21, 1915, *G. E. Nichols*, no. 1126. MAINE: cliffs by fall, Cascade Brook, Township XVIII, Range 10, Aroostook Co., July 31, 1893, *Fernald*, no. 204; eastern face of cliff at Mt. Kineo, August, 1867, *C. E. Smith*, August 28, 1871, *T. C. Porter*, September 18, 1887, *G. G. Kennedy*; rock cliffs and slides, 2400–2600 ft., Spencer Mt., East Middlesex, August 27, 1907, *J. A. Cushman*, no. 1777. NEW HAMPSHIRE:

[1] Hook. Sp. Fil. iv. 122, 123 (1862).

[2] "*Aspidium fragrans* Sw. species Sibirica schedula erronea in Caucaso ex herb. Vindob. indicatum videtur."—Boiss. Fl. Orient. v. 737 (1884).

shaded cliff, Gorge of Diamond River, Dartmouth College Grant, August 2, 1914, *A. S. Pease*, no. 16,153; Alpine Cascade, Gorham, 1873, *C. E. Faxon*, September 4, 1903, *Pease*, no. 2530; dryish cliffs, Crystal Cascade, Pinkham Grant, August 7, 1879, *Edwin Faxon*, September 6, 1907, *Pease*, no. 10,715; shaded cliffs, Ice Gulch, Randolph, September 13, 1895, *T. O. Fuller & H. A. Purdie*, August 28, 1901, *Pease*, no. 25; dry ledges, Mine Brook, Shelburne, August 15, 1908, *Pease*, no. 11,664. VERMONT: Mt. Mansfield, August, 1877, *Faxon*, *Pringle*, and many later collections by others; Smuggler's Notch, *Faxon et al.*; dry sheltered cliffs, Underhill (Nebraska) Notch, *Eggleston et al.*; altitude 1500 ft., Mt. Zion, East Hubbardton, July 17, 1898, *Eggleston & Ross*; rocky cliffs, elevation not over 1000 ft., Mt. Zion, September 1911, *Rugg*. ONTARIO: rocky cut on Canadian Pacific Ry., Franz, June 22, 1921, *Pease*, no. 17,960; crevices of rocks, Red Rock, Lake Superior, June 24, 1884, *J. Macoun*; Isle St. Ignace, 1866, *O.B. Wheeler*. MICHIGAN: Isle Royale, August 19, 1873, *H. Gillman*, August 6, 1909, *W. S. Cooper*, no. 27; among rocks, Keweenaw Co., August, 1888, *Farwell*, no. 557; on cliffs of greenstone trap east of the Cliff Mine, 1863, *J. W. Robbins*; Phoenix, August, 1885, *T. E. Boyce*. WISCONSIN: St. Croix Falls, 1861, *T. J. Hale*; Dells of the Wisconsin, *I. A. Lapham*. MINNESOTA: Basswood Lake, *L. H. Bailey*, no. 430; St. Paul, *Ellen Cathcart*. UPPER AMUR: on shady sloping cliffs, August 18, 1891, *Korshinski*. MIDDLE AMUR: on crags in oak copses, June 5, 1891, *Korshinski*. MANDSHURIA: Amur River, 1855, *R. Maack*. JAPAN: Sapporo, October 19, 1903, *Arimoto*.

GRAY HERBARIUM

PLANTS OF THE HAMILTON INLET AND LAKE MELVILLE REGION, LABRADOR.

R. H. WETMORE.

DURING the summer of 1921, the Canadian Government conducted a Survey in the region of Hamilton Inlet and Lake Melville, Labrador. While on that Survey, during the months of July and August, the writer collected the plants listed below. However, this does not represent an exhaustive study of the flora of the area covered, for the Survey itself was preeminently hydrographical and geological in its intent, hence those elements of the work were stressed accordingly; also the mode of travel of our party—by motor-boat and canoe—was conducive only to botanizing those points at which stops were made.

The plants were identified at the Gray Herbarium, Harvard University, before being forwarded to Ottawa, where they are now filed with the Geographical Survey. It is with the permission of the Director of that Survey that this list is being published.

Below is appended a list of the important stops of our trip, the names used being generally those employed by A. P. Low in his maps of that region, which were published by the Canadian Geological Survey in 1896. These places are numbered and the numbers will be used in the list following to stand for the places cited.

Before continuing with the list, the writer takes this opportunity to express his thanks to Prof. M. L. Fernald, with whose help the identification was done, and also to the Librarians of the Gray Herbarium for their assistance in finding literature needed. The names of introduced species are in italics.

List of Stations

1. Indian Harbor and adjacent islands.
2. Black Island, Hamilton Inlet.
3. Double Mer—along the shores only.
4. Barrens north of Rigolet.
5. North side of the Narrows, from the mouth of Double Mer to the east end of Lake Melville.
6. South side of the Narrows, from opposite the mouth of Double Mer to the entrance to the Backway, both on the shores and the adjacent barrens and bogs.
7. The shores and neighboring terraces of Mulliock Cove.
8. Shores and adjacent territory at Carravalla Bay.
9. Along Mulligan's River, including neighboring barrens and mountains.
10. Shores at Northwest River.
11. Grand Lake, shores only.
12. Shores of the Nascaupee River.
13. Hamilton River, near Muskrat Islands.
14. Shores and portage at Muskrat Falls, Hamilton River.
15. Shores of the Kenemich River.
16. South side of Lake Melville, from Carter Basin to English River.
17. Barrens and mountains at English River.
18. Shores and barrens on the Backway.
19. Grass field at Mud Lake (Gillesport).
20. Shores at Sabascachew Bay.

List of Plants

Polypodiaceae

Thelypteris Phegopteris (L.) Slosson.....1, 14, 17
T. Dryopteris (L.) Slosson.....4, 6
T. spinulosa (O. F. Muell.) Nieuwl.....6, 17
Athyrium angustum (Willd.) Presl.....17

Osmundaceae

Osmunda Claytoniana L.....17

Equisetaceae

Equisetum sylvaticum L., var. pauciramosum Milde.....4
E. palustre L.....12

Lycopodiaceae

Lycopodium annotinum L.....12, 14
L. annotinum L., var. acrifolium Fernald.....4, 9
L. annotinum L., var. pungens (La Pylaie) Desv.....4, 6
L. alpinum L.....7
L. obscurum L.....9
L. complanatum L.....12

Pinaceae

Abies balsamea (L.) Mill.....3–20
Juniperus communis L., var. montana Ait.....18

Sparganiaceae

Sparganium angustifolium Michx.....9

Najadaceae

Potamogeton heterophyllus Schreb., var graminifolius (Fries) Morong.....12

Juncaginaceae

Triglochin maritima L.....

Gramineae

Hierochloë alpina (Sw.) R. & S.....1
Phleum *pratense* L.....14, 19
P. alpinum L.....1
Agrostis hyemalis (Walt.) BSP.....12, 14
Agrostis *alba* L., var. *vulgaris* (With.) Thurb.....19
Calamagrostis canadensis (Michx.) Beauv., var. Langsdorfi (Link) Inman.....1, 5, 6, 8, 11
Calamagrostis neglecta (Ehrh.) Gaertner, Meyer, & Scherbius 4, 5, 10, 12
Cinna latifolia (Trev.) Griseb.....10, 14
Deschampsia flexuosa (L.) Trin., var. montana (L.) Parl...3, 6
Poa eminens J. S. Presl.....5, 6, 9
P. pratensis L.....5, 6, 14, 19
Glyceria nervata (Willd.) Trin., var. stricta Scribn.....12
G. borealis (Nash) Batchelder.....11
Festuca rubra L.....5, 6
Hordeum jubatum L.....12

Elymus arenarius L., var. villosus E. Meyer...1–3, 5–8, 10, 16–18

CYPERACEAE

Eleocharis palustris (L.) R. & S.....9
E. acicularis (L.) R. & S.....12
Scirpus cespitosus L., var. callosus Bigel.....1
S. rubrotinctus Fernald.....11
S. atrocinctus Fernald, var. brachypodus Fernald.....12
Eriophorum Chamissonis C. A. Meyer.....6
E. callitrix Cham.....4
E. gracile Roth.....10
E. angustifolium Roth.....1, 17
E. Scheuchzeri Hoppe.....1
Carex projecta Mackenzie (*C. tribuloides* Wahlenb., var. *reducta* Bailey).....12
C. echinata Murr., var. angustata (Carey) Bailey.....14
C. canescens L.....10
C. brunnescens Poir.....5, 6, 14
C. Macloviana D'Urv.....1
C. glareosa Wahlenb., var. amphigena Fernald.....5, 6
C. stipata Muhl.....12
C. maritima O. F. Mueller.....5, 6, 12
C. salina Wahlenb., var. kattegatensis (Fries) Almq.....10, 12
C. rigida Good.....11
C. lenticularis Michx.....10
C. rariflora Smith.....5, 6
C. miliaris Michx.....11, 14
C. vesicaria L.....10, 20
C. rostrata Stokes.....12

JUNCACEAE

Juncus trifidus L.....1
J. balticus Willd., var. littoralis Engelm.....14, 20
J. filiformis L.....10, 12
J. alpinus Vill., var. insignis Fries.....11, 12
Luzula spicata (L.) DC.....1

LILIACEAE

Clintonia borealis (Ait.) Raf.....14, 17
Smilacina trifolia (L.) Desf.....Common in all bogs
Maianthemum canadense Desf.....11–15, 17
Streptopus amplexifolius (L.) DC.....16, 17

IRIDACEAE

Iris setosa Pall., var. canadensis Foster.....1–3, 5–8, 16–18, 20
Sisyrinchium angustifolium Mill.....19

ORCHIDACEAE

Habenaria hyperborea (L.) R. Br.....15
H. dilatata (Pursh) Gray.....1

Spiranthes Romanzoffiana Cham.....19
Goodyera repens (L.) R. Br., var. ophioides Fernald 17
Listera cordata (L.) R. Br.....17

Salicaceae
Salix lucida Muhl.....11
S. lucida Muhl., var. intonsa Fernald.....11
S. planifolia Pursh.....18
S. anglorum Cham.....1
Populus tremuloides Michx.....9, 12

Myricaceae
Myrica Gale L.....18

Betulaceae
Betula glandulosa Michx.....1, 18
B. microphylla Bunge.....7, 17, 18
Alnus crispa (Ait.) Pursh.....9, 15

Santalaceae
Comandra livida Richards.....6, 9

Polygonaceae
Rumex occidentalis Wats.....8, 12
R. *acetosella* L.....10
Polygonum aviculare L.....10
P. viviparum L.....5–8, 20

Chenopodiaceae
Chenopodium *album* L.....9

Caryophyllaceae
Arenaria lateriflora L.....9
A. peploides L.....5, 6, 7
A. groenlandica (Retz.) Spreng.....17
Stellaria borealis Bigel.....9
S. crassifolia Ehrh.....8
S. humifusa Rottb.....8
S. longipes Goldie, var. laeta (Richards.) Wats.....1, 5, 6
S. *media* (L.) Cyrill.....8
Cerastium arvense L.....1
C. alpinum L., var. lanatum Hegetschw.....1
Silene acaulis L., var. exscapa (All.) DC.....1

Ranunculaceae
Ranunculus reptans L.....11
R. pennsylvanicus L. f.....12
R. *acris* L.....19
R. hyperboreus Rottb.....1
R. lapponicus L.....5
Thalictrum polygamum Muhl.....19
Coptis trifolia (L.) Salisb.....4, 9
Actaea rubra (Ait.) Willd.....12

CRUCIFERAE
Draba incana L. 5, 6
Thlaspi *arvense* L. 19
Capsella *Bursa-pastoris* (L.) Moench. 5
Cochlearia sp. (undetermined) 1
C. sp. (undetermined) 1
C. sp. (undetermined) 1
SARRACENIACEAE
Sarracenia purpurea L. 16
CRASSULACEAE
Sedum roseum (L.) Scop. 1
SAXIFRAGACEAE
Parnassia palustris L. 1, 16
Ribes prostratum L'Hér. ..... common everywhere
ROSACEAE
Pyrus dumosa (Greene) Fernald. 17, 18
Amelanchier Bartramiana (Tausch.) Roem. 6
Potentilla monspeliensis L. 5–10, 16, 19, 20
P. palustris (L.) Scop. 5, 6, 8
P. tridentata Ait. 6
P. pacifica Howell. 1–9, 16–18, 20
Geum macrophyllum Willd. 15
Rubus idaeus L. 18
R. Chamaemorus L. 1–9, 15–18, 20
R. triflorus Richards. 9
Sanguisorba canadensis L. 10–12
Prunus pennsylvanica L. f. 9
Dryas integrifolia Vahl. 1
LEGUMINOSAE
Trifolium *pratense* L. 19
T. *repens* L. 19
T. *agrarium* L. 19
Astragalus alpinus L. 1
Oxytropis campestris DC., var. caerulea Koch. 1
Vicia *Cracca* L. 19
Lathyrus maritimus (L.) Bigel. . common on all salt and brackish shores, and on Grand Lake.
GERANIACEAE
Geranium *pratense* L. 10
CALLITRICHACEAE
Callitriche palustris L. 12
EMPETRACEAE
Empetrum nigrum L. ..... common on all barrens and rocky headlands.
VIOLACEAE
Viola labradorica Schrank. 1, 3

ONAGRACEAE

Epilobium angustifolium L. . . common everywhere west of Rigolet
E. latifolium L. 3, 9
E. palustre L. 8
E. palustre L., var. longirameum Fernald & Wiegand 8
E. glandulosum Lehm., var. adenocaulon (Haussk.) Fernald 8, 12

HALORAGIDACEAE

Hippuris vulgaris L., var. maritima (Hellen.) Wahlenb. 8

UMBELLIFERAE

Coelopleurum lucidum (L.) Fernald 5, 6
Angelica atropurpurea L. 1, 5, 6, 15

CORNACEAE

Cornus canadensis L. 4, 6, 9, 13
C. suecica L. 1, 5, 6
C. stolonifera Michx. 14, 17

ERICACEAE

Moneses uniflora (L.) Gray 4, 16
Pyrola minor L. 15
P. secunda L., var. obtusata Turcz. 14
P. chlorantha Sw. 14
Ledum groenlandicum Oeder . . . . . common on all barrens
L. palustre L. 1
Kalmia angustifolia L. 9–15, 20
K. polifolia Wang. 1, 3, 4, 6
Phyllodoce caerulea (L.) Bab. 4
Chamaedaphne calyculata (L.) Moench. 4, 6
Arctostaphylos alpina (L.) Spreng. 4, 7, 17, 20
Chiogenes hispidula (L.) T. & G. 4
Vaccinium pennsylvanicum Lam., var myrtilloides (Michx.) Fernald. . . . . common on all barrens
V. pennsylvanicum Lam., var. angustifolium (Ait.) Gray 4
V. uliginosum L. . . . . common on all barrens.
V. Vitis-Idaea L., var. minus Lodd. . . common on all barrens and mountains.
V. Oxycoccus L. 4

DIAPENSIACEAE

Diapensia lapponica L. 17

PLUMBAGINACEAE

Statice labradorica Hubbard & Blake 1

PRIMULACEAE

Primula farinosa L. 1
P. farinosa L., var. macropoda Fernald 11
Trientalis borealis Raf. . . . . common in woods everywhere.

GENTIANACEAE

Gentiana Amarella L. 3

BORAGINACEAE

Mertensia maritima (L.) S. F. Gray. 1, 3

LABIATAE

Galeopsis *Tetrahit* L. 18, 19

Mentha arvensis L., var. glabrata Fernald 12

SCROPHULARIACEAE

Veronica scutellata L. ....?

Castilleja pallida (L.) Spreng., var. septentrionalis (Lindl.) Gray 11

Euphrasia arctica Lange 1, 2

Pedicularis flammea L. 1

P. groenlandica Retz. 11

P. euphrasioides Stephen 1, 6

Rhinanthus Crista-galli L. 1

LENTIBULARIACEAE

Pinguicula vulgaris L. 1

P. villosa L. 1

PLANTAGINACEAE

Plantago decipiens Barneoud 20

RUBIACEAE

Galium trifidum L. 10

G. labradoricum Wiegand 10

G. triflorum Michx 15

Linnaea borealis L., var. americana (Forbes) Rehder. . common in all woods

CARIFOLIACEAE

Viburnum pauciflorum Raf. 9

COMPOSITAE

Solidago macrophylla Pursh 3, 17

S. macrophylla Pursh, var. thyrsoidea (E. Meyer) Fernald 9

S. lepida DC. 15

Aster foliaceus Lindl. 11

Erigeron acris L., var. asteroides DC. 19

Anaphalis margaritacea (L.) B. & H., var. occidentalis Greene. 14

Achillea Millefolium L., var. nigrescens E. Meyer. . common on all shores

Chrysanthemum *Leucanthemum* L., var. *pinnatifidum* Lecoq. & Lamotte 19

Artemisia canadensis Michx 13

Petasites palmatus (Ait.) Gray 12

Senecio palustris (L.) Hook 1

S. Pseudo-Arnica Less. 5, 6, 20

Cirsium muticum Michx 15

Leontodon *autumnalis* L. 19

Taraxacum ceratophorum DC 1

T. *officinale* Weber 10
Lactuca spicata (Lam.) Hitchc. 15

Harvard University.

FALCARIA RIVINI, A PLANT NEW TO THE UNITED STATES

E. M. Gress.

A colony of *Falcaria rivini* Host.[1] has been discovered on the farm of S. G. Myers about 4 miles south of Mercersburg, Franklin County, Pa. The colony covers an area about 10 ft. in diameter in the middle of a field of limestone soil.

Mr. Myers first noticed the plant about five years ago growing in the clover and timothy, but gave little attention to it until he noticed that the plant was not eradicated by the ordinary method of crop rotation which consisted of clover and timothy, followed by corn, this being followed by wheat.

A specimen of the plant was shown to Dr. John L. Bradley, a Veterinarian of Mercersburg, Pa., who noticed at once that the plant was not one of our common weeds. Dr. Bradley sent some specimens to the Bureau of Plant Industry at Harrisburg, for identification.

The writer accompanied by Dr. Bradley visited the colony on September 9th and found that the plants had been cut off about 8 inches above the ground by the binder when the wheat had been harvested, but that they had sprouted out from the cut stem. Some of the young branches were in bloom while others had passed the blooming period and contained immature fruits. We started to dig up the roots of one of the plants by using a large pen knife. We soon found that it could not be done with this instrument and Mr. Myers secured a mattock for the purpose. We dug as deep as we could with the mattock and then secured a post digger to finish the job. Everything went well until a large limestone rock was encountered through which we could not dig but through which the root seemed to find its way, probably through a crevice. We then cut the root off and measuring it, found it to be 35 inches long. The root was about

[1] *Falcaria vulgaris* Brnh., *Critamus agrestis* Bess., *Drepanophyllum sioides* Web *Sium falcaria* L., *Bunium falcaria* Bieb., *Drepanophyllum agreste* Hoffm. & Koch. *Seseli falcaria* Crantz, *Crithmum umbelliferum* Bauh.

¼ inch in diameter throughout the entire length and had penetrated the soil in a vertical direction.

We did not find any seedlings and the plant seems not to be spreading by seeds but the colony is increasing in diameter by the underground roots. Many rosettes of young plants were found over the area and particularly around the outer edge.

Observations of the colony leads us to believe that the plant will become a very noxious weed if allowed to spread. Failure to spread by seeds may be due to the fact that the plant has been cut before the seeds were mature enough to grow or it may be that viable seeds do not form in its new habitat. These facts have not as yet been determined. There is no doubt, however, that it is able to spread and persist by its deep perennial roots.

The plant is a native of southern and middle Europe and parts of Asia and has been found in Argentina and Costa Rica but so far as we can find out it has never before been found growing in the United States.

Casually the plant would probably be mistaken for wild carrot. The leaves, however, are so different from the lace-like leaf of wild carrot that there is no difficulty in distinguishing it from that plant.

The leaves are ternately pinnate, glaucescent, the leaflets are linear-lanceolate, decurrent, finely and irregularly serrate, the teeth terminated by a sharp cartilaginous point, the middle leaflet is generally divided into three equal decurrent parts or leaflets, the lateral leaflets are irregularly divided into one to three parts or leaflets. The root leaves are long-petioled, while those on the stem have short inflated petioles. The umbels are many-rayed with both involucres and involucels of small, narrow bracts. The flowers are small with a five-toothed calyx and white incurved petals. The fruit (not mature) is oblong with widely diverging styles and filiform ribs and one oil-tube in each furrow between the ribs.

Office of State Botanist, Harrisburg, Pa.

THE NATIVE TANSY OF NEWFOUNDLAND.

M. L. Fernald.

In a recent valuable little collection brought back from Flower's Cove on the Newfoundland side of the Straits of Belle Isle by Miss

Mary E. Priest, and containing several plants heretofore unknown from Newfoundland, is a dwarf and lanate large-headed tansy with almost scapose stems less than 1 dm. in height. Miss Priest's plant is identical with specimens collected by Fernald, Wiegand & Kittredge in 1910 on dry limestone barrens fifty miles to the south, on the shores of Ingornachoix Bay. The Newfoundland plant seems to be an extreme variation of *Tanacetum huronense* Nutt., which in its typical form occurs from the St. John Valley in New Brunswick to Hudson Bay and Lake Superior and it is here proposed as:

Tanacetum huronense Nutt., var. **terrae-novae**, n. var., a forma typica recedit habitu subscaposo, caule 0.7–1.3 dm. alto lanato; foliis confertis 3.5–9 cm. longis subtus albido-tomentosis vel -lanatis, segmentis confertis; capitulis 1–3; involucro lanato.

Differing from the typical form of the species in its subscapose habit; the stem 0.7–1.3 dm. high, lanate, 1–3-headed; leaves crowded at the base of the stem, 3.5–9 cm. long, white-tomentose or -lanate beneath, their segments crowded: involucre lanate.—Newfoundland: dry rocky limestone barren, near sea-level, Ingornachoix Bay, August 2, 1910, *Fernald, Wiegand & Kittredge*, no. 4162 (type in Gray Herb.); coast, Flower's Cove, July 26, 1921, *Mary E. Priest*, no. T, 4.

The typical continental form of the species has stems 2.5–8 dm. high, with remote leaves mostly 1–3 dm. long. It is much greener and less pubescent throughout and the stems bear 1–8 heads.

It is not impossible that *Tanacetum huronense* should be treated as a variety of *T. bipinnatum* (L.) Schz.-Bip., which extends from Russian Lapland across northern Asia to Alaska and the Mackenzie. The characters relied upon by Rydberg in the *North American Flora* to separate the two seem sufficiently clear:

"Ligules erect or ascending, decidedly concave; heads several.....2. *T. huronense*"
"Ligules spreading, flat; heads 1-4.....4. *T. bipinnatum*"[1]

but unfortunately the description of the ligules as "decidedly concave" must have arisen through study of poorly dried material. The writer has intimately known *T. huronense* for thirty years, making his first collections of it in 1893, his latest in 1922, with six other collections in the interval, and he has not noticed any conspicuously "concave" character. The ligules are often inconspicuous but in the same areas they may become quite obvious; for instance, Fernald & Long's no.

[1] Rydb. N. A. Fl. xxxiv. 238 (1916).

14,860 from Woodstock, New Brunswick, admirably shows flat ligules 4 mm. long. These are, however, as described by Rydberg, more ascending than in *T. bipinnatum*, and in this character the two are perhaps separable. The apiculate tips to the leaf-segments are identical, as are the achenes and pappus and, although the key-character above quoted gives *T. huronense* "heads several" and *T. bipinnatum* "heads 1–4," the 55 flowering stems of the former now before the writer show 9 specimens with 1 head, 11 with 2, 20 with 3 and 9 with 4 (total, 49 out of 55), while only 1 has 5 heads, 2 have 6, 2 have 7 and 1 has 8. Upon its more elevated disk and less spreading, usually more deeply lobed, ligules *T. huronense* is distinct from the scanty material at hand of *T. bipinnatum*, but the differences are so slight that, when the intermediate country between Lake Superior and the Yukon is better known, it is highly probable that exactly transitional plants will be found.

The genus *Tanacetum* is tentatively retained in its traditional sense, although Hoffmann[1] and his followers in Germany, Austria and Switzerland merge it with *Chrysanthemum*. The group is so largely Eurasian that in America we are scarcely in position properly to weigh generic values within it. Prior to Hoffmann's treatment the traditional practice in continental Europe was to consider as true *Chrysanthemum* the species such as *C. segetum* L. and *C. coronarium* L., in which the pappus is obsolete and the achenes dimorphic, at least the outer ones with 2 or 3 wing-angles. This was the treatment of Schultz Bipontinus[2] when he maintained *Chrysanthemum* in its most restricted sense and treated as *Tanacetum* the plants with uniform 5–10-costate achenes and coroniform pappus. The *Tanacetum* of Schultz contained very diverse elements, all of which are included by Hoffmann in *Chrysanthemum*—such plants as *T. Balsamita* L., the Costmary of old gardens, which Rydberg in the *North American Flora* maintains as a monotypic genus, *Balsamita Balsamita* (L.) Rydb. separated from *Tanacetum* because it has "Heads discoid, homogamous, *i. e.*, ray-flowers wholly wanting," thus quite ignoring the fact that typical *T. Balsamita* is a plant correctly described by Boissier "ligulis albis disco aequilongis" (*Fl. Orient.* iii. 345). Schultz also included *T. Parthenium* (*Chrysanthemum Parthenium* (L.)

[1] O. Hoffm. in Engler & Prantl, Pflanzenf. iv. Ab. 5: 277, 278 (1892).

[2] Schz.-Bip. Ueber die Tanaceteen (1844).

Bernh.), the old fashioned Feverfew; *T. atratum* (*C. atratum* L.), an alpine Marguerite closely related to our introduced Daisy or White Weed, *C. Leucanthemum* L. or *Leucanthemum vulgare* Lam.; and *T. indicum* (*C. indicum* L.), one of the progenitors of the garden Chrysanthemum. Somewhat similarly, Boissier,[1] in 1875, maintained *Chrysanthemum* in its restricted sense and threw the others, including *Tanacetum*, into *Pyrethrum*. The problem, as already said, is essentially one for the European student to settle, since the great bulk of species is Eurasian, but until there is fuller agreement among the more thorough students of Eurasian *Compositae* it seems better for us to maintain, for the present, *Tanacetum* as generically distinct from *Chrysanthemum* in the restricted sense. If *Tanacetum*, *Pyrethrum*, *Leucanthemum*, etc., constitute a single genus distinct from *Chrysanthemum*, an interpretation which has much authoritative support, the earliest generic name is, of course, *Tanacetum* L. Sp. (1753) which antedates *Leucanthemum* Mill. (1754) and *Pyrethrum* Scop. (1772).

GRAY HERBARIUM.

ISLE AU HAUT PLANTS.—During the summer of 1921, I found growing amongst various grasses on what is known as Birch Point, though there seem to be no birches there, *Luzula campestris* (L.) DC., var. *acadiensis* Fernald. This will be found described by Prof. Fernald in RHODORA, Vol. 19, p. 38, from eastern Canada. His comment on my plant is "first in Maine."

About the same time I found on York Island, which lies close to the eastern shore of Isle au Haut, a golden-rod, *Solidago lepida* DC., var. *molina* Fernald, which is also "new to New England." This was described by Prof. Fernald in RHODORA, Vol. 17, p. 9. It is mentioned in Gray's Manual (7th edition) under *S. canadensis* L., var. *gilvocanescens* Rydb., but with no footing in New England.

I wish to acknowledge Prof. Fernald's kindness in identifying both of these plants for me.—NATHANIEL T. KIDDER, Milton, Massachusetts.

[1] Boissier, Fl. Orient. iii. 335 *et seq.* (1875).

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